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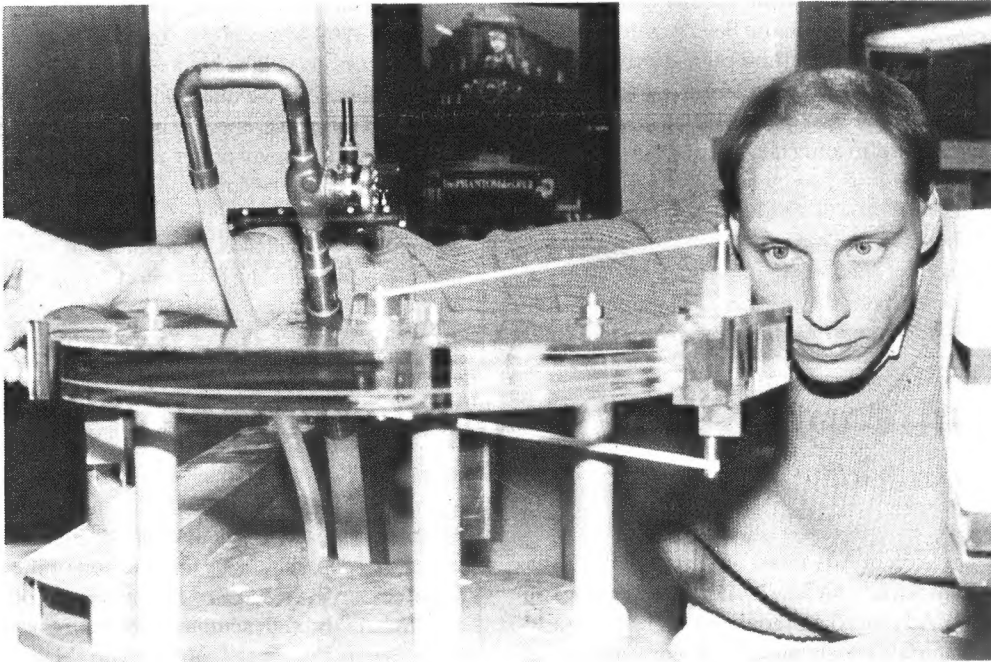
## Engineering student earns one of country's most prestigious awards

Growing up on a farm just outside Devon, Barry Bara often found himself helping his father fix the equipment. That practical, hands-on experience would later serve him well as he went on to earn three engineering degrees at the University of Alberta—and, more recently, one of the country's most prestigious awards offered by the Natural Sciences and Engineering Research Council.

Moreover, the 32-year-old went on to employ that practical experience in succeeding in an area where others had failed, and in doing so, was awarded one of the four recently established NSERC prizes to recognize the best PhD graduates in the country. (Two were awarded in natural sciences and two in engineering. Dr Bara was awarded one in engineering and biochemist Natalie Strynadka

External examiner Stanley Berger of the University of California, Berkeley, says 10 years ago most researchers in the field would have said they understood the physics of curved duct flows, at least for laminar flows, and what remained to be done was fairly routine experiments and calculations. But Dr Nandakumar and Dr Bara's other co-supervisor, Killam Professor Jacob Masliyah, and others began to suggest there were more complex solutions.

"Very little has been done experimentally," says Dr Berger. "This is not totally surprising because these flows are extremely difficult to explore experimentally. Dr Bara is therefore all the more to be praised for an extraordinary set of experiments of curved duct flows. In doing so, he has resolved a



Barry Bara, one of Canada's best PhD graduates.

earned one in natural sciences. Together, they accounted for 50 percent of the awards.)

"Barry's experimental work represents the type of careful and thoughtful measurements that are required to advance engineering fluid mechanics," says his supervisor, David Wilson (Mechanical Engineering). And says co-supervisor Krishnaswamy Nandakumar (Chemical Engineering), Dr Bara worked on a very challenging problem, bifurcation phenomena in a pressure-driven flow through a curved duct.

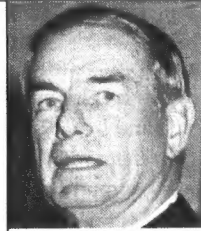
"The challenge was in experimentally confirming a number of important predictions on the nature of such flows," says Dr Nandakumar. "These predictions, based on computations, appeared in the most highly respected journal in this field, *Journal of Fluid Mechanics*. Barry succeeded in experimentally verifying these predictions while a number of earlier attempts by other investigators failed."

number of theoretical issues that had arisen over the last number of years."

According to Dr Masliyah, Dr Bara's work was the first to systematically identify the existence of a four-vortex pattern and lay down the conditions under which it occurred. The question is why did it take about half a century to document such a new phenomenon? asks Dr Masliyah.

"To do so," explains Dr Masliyah, "one needs well conceived and designed equipment. Indeed, Barry designed and built an exceptionally unique apparatus. Barry used laser doppler anemometer to measure the local fluid velocity inside the channel. Barry constructed a beautifully designed optical system to capture the flow patterns within the fluid. He used the latest technology in image enhancement to augment the picture sharpness and the removal of any distortion."

*Continued on page 2*



## Government announces three percent increase for postsecondary sector Getty urges institutions to boost fundraising efforts

The University of Alberta will receive a three percent increase in its operating grant from the provincial government for the 1992-93 fiscal year.

In actual dollars, the government will increase its support for the postsecondary sector by \$26.3 million, to \$902 million in 1992-93. Local health authorities, hospitals and nursing homes will receive a four percent increase, while municipalities will receive a \$2.5 percent increase.

"The grant increases are not as much as everyone would like," Premier Don Getty said 9 January. But taxpayers also want the government to spend less money, he said, promising that this year there would be no personal income tax increases.

The Premier said he'd like to see hospitals, technical institutes and universities continue to step up their efforts in raising more money from the community. He said the universities' leaders have been moving in that direction very well.

Treasurer Dick Johnston said he anticipated there would be more calls from around the province for reasonable wage settlements. "That's the real world we're living in." (The University is about to begin bargaining with the Academic Staff Association.)

President Paul Davenport said, "The three percent increase in the operating grant will leave the University in a very difficult financial situation." The University's costs are most certainly going to increase by more than three percent, he said, citing possible pension reform contributions, unemployment insurance contributions and utilities costs. The University, at this point, doesn't know the exact costs of pension fund reforms or the speed in which possible changes will be enacted.

"At the same time we need to acknowledge the difficult financial situation of the provincial government," the President said, adding that the government has to bring its deficit under control.

Postsecondary education accounts for 9.1 percent of the provincial budget. The three percent grant is one-half of a percent above what the Treasurer estimates the inflation rate will be in the coming year. That's been the single biggest change in the government's outlook for 1992, he explained, adding that the government's intention is still to balance the budget.

Students' Union President Marc Dumouchel said the three percent is better than he expected, if the Treasurer's projections hold true. One issue that hasn't been resolved, however, is the pension fund problem, he said, noting that if the University is forced to contribute significantly more in pension contributions

over the next several years, it will have an enormously negative impact on the University budget.

Dumouchel said hospitals are now receiving funding over two years, enabling them to plan more comprehensively. Universities should have the same option, he suggested. President Davenport agreed. He said he was delighted that the government was making multi-year funding announcements for hospitals. "We strongly urge the government to make the same arrangements for the university sector."

President Davenport outlined that the University is in the early stages of budget planning and at this point salary settlements are unknown. The coming year will easily be the most difficult year that the University has faced over the last four or five years.

"I must repeat, as I've done so often in the past, the urgency of the situation with regard to our physical capital facilities," said President Davenport. "We are the oldest educational institution in the province. We have problems of physical decay in our buildings that are absolutely unique in the province." He expressed the hope that the capital budget, which will be announced in the spring, contains a substantial increase. Dumouchel said a recent physical audit found that three-quarters of the capital improvements needed by postsecondary institutions in the province were located on the U of A campus.

"Our Board of Governors has already approved the tuition increase for next year [1992-93], effective April 1, which is the maximum that the provincial regulations allow," the President said. That increase will be about 15 percent. Dumouchel pointed out that the Students' Council supports the idea of students paying 15 percent of the cost of their education, but based on projections and depending on a number of variables, students could be paying anywhere from \$3,400 to \$4,400 in instructional fees by the year 2000. "That's a tremendous amount of money."

President Davenport outlined a number of other options open to the University in the coming year. For example, last year the Board transferred \$1.5 million from its operating budget to its capital budget. That was used to purchase teaching equipment. "That possibility remains open to us this year." The President also pointed out that the University community has high expectations in the area of private fundraising.

"We think there are a great many alumni and friends out in the community who over time will respond to some of our problems," he said. "We have certainly designated private fundraising as a priority over the last two years."



## Engineering

Continued from page 1

Dr Bara agrees. He credits now retired machinist John VanDoorn for his meticulous attention to detail when helping him construct his equipment. Dr Bara, who also earned an NSERC Scholarship, a Province of Alberta Graduate Fellowship and an RR Gilpin Memorial Scholarship during his graduate work, says, "I've been involved with very active people who have had good funding." That's meant he's been able to use state-of-the-art equipment. Moreover, says Dr Bara, "when you're pushing the limits of technology, you're always going to need state-of-the-art equipment."

He praises his advisors for setting high standards of excellence and scholarship, encouraging him to harness the internal drive he has and allowing him the freedom to use his abilities. "They fostered the things I was good at," he says, adding that he grew more appreciative of his advisors as time went on.

He does, however, sound a cautionary note. NSERC is helping to fund research, so researchers can remain on top of their fields. But it's not enough. Industry has to put more funding into universities and, unfortunately, with the energy sector in decline, government funding has had an impact on universities' ability to do such things as purchase good equipment and continue to subscribe to necessary journals. Those journals are crucial to understanding what's going on in your field, he says.

"One thing that is scary is that funding is directly related to the quality of research we're able to produce."

Dr Bara, who has worked briefly for the Department of National Defence in Halifax, for Interprovincial Pipelines and on a contract basis for Syncrude, says in the short-term he'd like to acquire some industrial experience. For the long-term, however, he'd like to remain in the academic environment.

## FOLIO

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### DEADLINES:

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Advertisements cost 40 cents per word with no discount for subsequent insertions. There is a limit of 30 words and a minimum charge of \$2.00. Advertisements cannot be accepted over the telephone. All advertisements must be paid for in full at the time of their submission.

**Display advertisements:** 3 pm Thursday, eight days before desired publication date. Camera ready artwork is required to size, complete with halftones if necessary. Contact Public Affairs for sizes, rates and other particulars.

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## Cold Buster back on sale

The Canadian Cold Buster has returned to the market.

The candy bar, termed by its inventor, Larry Wang, "a budding product which we think can save lives," was pulled from stores across Canada because of tampering by a group that calls itself the animal rights militia. The recall was ordered more than two weeks ago.

"We're back with confidence and we will not be deterred by a small group's terrorist action," Dr Wang told a news conference 10 January. His partner in the venture, Charles Lee, predicted that L and R Wang Enterprises would emerge from the experience that much stronger.

Each master box of the hypothermia-fighting bars will be dated by special code and L and R Wang Enterprises Ltd will know where each box is going in the retail system. Shrink wrapping will be used and the bars will be placed either on the front counter or behind it to minimize any opportunity for tampering.

Dr Wang indicated that tamper-proof packaging of the Canadian Cold Buster will be introduced.

Earlier, all bars at the retail end were collected and shipped back to the plant (in British

Columbia) where they are being inspected by Health and Welfare Canada officials. Meanwhile, production has resumed and new bars are being shipped to stores. The recalled bars may also be shipped to stores if they pass inspection.

No tampering has been detected except for three bars which the animal rights militia sent to *The Edmonton Journal*, *The Calgary Herald* and *The Canadian Press*, Dr Lee said. A letter to each outlet condemned the use of animals in Dr Wang's research.

Dr Lee said the new shrink wrapping and packaging will cost the company an extra two cents per bar. He also said the costs from calling back the bars are "enormous in terms of confidence," but that that confidence could be regained. All our retailers want the product back as soon as possible, he said.

Dr Wang said most animal welfare groups have taken issue with the animal rights militia's action and that he's grateful for the support he's received. He emphasized that he's followed all guidelines governing the use of animals in research and that he would welcome an open debate on researchers' use of animals.

## REVENUE CANADA OFFERING ON-CAMPUS SERVICES THIS YEAR

For the first time ever, Revenue Canada, Taxation, will be working with on-campus volunteers to help students who need assistance completing their tax returns.

Two workshops are being held to train approximately 40 volunteers—many of whom are members of the Accounting Club—so they will be able to fill out tax returns.

The service will be free and physical space will be provided by the Student Financial Aid and Information Centre. The students who will be eligible for the service are those who don't have the expertise to do their returns or cannot afford to have them done.

The service, says the Centre's Financial Information Coordinator Becky Lore, will begin in February and end in mid-March. While the hours of operation will be restricted to normal University hours, the volunteers

may decide to offer the service, as well, through a drop-off system, or on an appointment basis.

Although students' income tax returns are generally simple, those that the volunteers consider more complicated and cannot handle properly can be taken to Revenue Canada.

Revenue Canada's District Office Public Affairs Officer, Joanne Beaton, said the University is a natural place for the program. Students, for the most part, have low incomes and haven't had a great deal of experience filling out income tax returns.

The Student Financial Aid and Information Centre will also be bringing in a tax accountant to conduct a workshop aimed at teaching students to do their own returns. The workshop will be held 5 February from 1 to 2:30 pm in 034 Students' Union Building.

## Campus giving Wollstonecraft her due

Who was Mary Wollstonecraft? People from on and off campus will be able to learn the answer to that question later this month.

A number of events will be held 30 and 31 January to celebrate the bicentenary of one of the writer's most famous works, *A Vindication of the Rights of Woman*, published early in 1792. The event is called Rights of Woman/Wrongs of Woman 1792-1992: The Bicentenary of Mary Wollstonecraft's *A Vindication of the Rights of Woman*.

According to organizer Gary Kelly (English), Wollstonecraft (1759-1797) was the first major feminist writer in English. At first, she wrote books for children, translated books from French and worked as a reviewer. These endeavours were considered feminine kinds of writing, but she later turned her interests towards politics.

Written in a very personal and expressive manner, her most important work argued against the intellectual trivialization of women and the sexual and economic exploitation of women. She advocated women be educated, given property rights, and civic equality. Dr Kelly says modern readers of her work would find her accounts valid, graphic and moving even today.

In addition to Rights of Woman/Wrongs of Woman, there will be talks on such topics as: "Feminism Before Wollstonecraft", "Religion, Sex and Politics: Wollstonecraft's Revolutionary Feminism" and "Wollstonecraft and Victorian Feminism". Prominent writers on campus will read from their own works inspired by Wollstonecraft's life and writings.

Since Wollstonecraft was a music lover, an evening concert will be held. Rutherford Library will have two exhibitions on her life, work and influence, and the Bookstore will have a special display of her works for sale.

To recognize the continuing relevance of her graphic portrayal of the "wrongs of women," there will also be an information-donations table for the Edmonton Women's Shelter. For more information on the events, call Dr Kelly at 492-7827 or 433-7567.

## Engineering creates centre for advanced engineered materials Centre expected to have close links with industry

The University of Alberta Centre for Advanced Engineered Materials (UAEM) is now a reality. It's expected the new centre, spearheaded by the Faculty of Engineering, will bolster work on advanced engineered materials.

The new Centre will also foster interdisciplinary research, help to attract strong graduate students, expand university-industry connections and build links with other researchers across the province who are working with advanced materials.

According to Dean Fred Otto, the new Centre will help to bridge the information gap between industry and academic research. "We are delighted that Novacor Chemicals Ltd has agreed to be a partner in assisting us to found this Centre," he said, noting that the Centre will obviously have a role to play in developing advanced materials. Those materials will be the basis of new industries, he added.

The Centre's first director is Fernand Ellyin (Mechanical Engineering), who has more than 25 years' experience in materials performance evaluation. His current research is focused on the fatigue and fracture of advanced materials and he has also collaborated in the writing of materials standards for reactor components for CANDU nuclear power plants. Dr Ellyin was

recently appointed chair of the newly created Division of Advanced Materials of the Canadian Society for Mechanical Engineering.

Advanced materials are high, value-added materials which outperform conventional materials. These products are usually lighter, function over a broader range of temperatures and last longer. These advanced materials include: fibre-reinforced composites, metal-matrix composites, electronic materials, copolymers and ceramics.

The Dean pointed out that there is a growing emphasis in industry to customize certain properties of these new materials for precise and specific uses. "We expect to help develop the required processing technology and to strengthen our materials engineering education programming."

According to Michael Williams (Chemical Engineering), one of a number of professors on campus who helped get UAEM off the drawing board, the Centre will also be involved in coordinating the teaching and research on campus across disciplinary lines. Students will get to see the broader picture, he said, and there's no doubt its existence will help attract bright graduate students. The Dean concurred. Students will have first-hand involvement in the development of advanced materials, he said.

Dr Ellyin said graduate students will benefit more immediately by the creation of the Centre. They'll be exposed to the work of other researchers through seminars, while in the longer term, undergraduates will be able to take courses dealing with advanced materials.

Dr Ellyin said he hoped that a sufficient number of professors on campus will join the Centre and make it truly interdisciplinary. The first step will be to hold a general meeting of researchers who are interested in becoming involved with the Centre. A steering committee will then be established.

Discussions will also be held with other potential corporate partners. Dr Ellyin estimated it would cost about \$200,000 on an annual basis, excluding research, to operate the Centre.

Meanwhile, other universities are establishing similar initiatives. In Ontario, the provincial government has begun to fund the Ontario Centre for Materials Research, associated with a number of universities in that province and housed at Queen's University. A similar initiative is under way at the University of British Columbia and a building to house the research is under construction.



## CAUT executive director urges academics to get involved

*Constitutional questions will affect postsecondary education*

Canadians used to ask what does Quebec want? Now the question is what does the rest of Canada want? In answering the latter question, the Executive Director of the Canadian Association of University Teachers says university academics also have to ask where does higher education fit in and what role should the federal government play?

Addressing the Staffing the University of Alberta in the 1990s: Recruitment and Retention colloquium 17 December, Donald Savage said, "The university community has to take the constitutional exercise more seriously and defend its own interests."

Dr Savage lamented the state of Canadian federalism and its impact on the postsecondary education system. In Germany, the federal government and the *l nders* seem to be able to create structures in which they actually talk to one another and plan educational programs which involve both levels of government.

"Why it isn't possible for Canadians to do that and why we have to conceive of federal-provincial politics simply in terms of either federal-bashing or province-bashing, I find depressing in the extreme," he said. "We have similarly failed to impress federal and provincial politicians that we not only consider this counter-



Donald Savage says our federal state is not serving postsecondary education well.

productive, but we can now visibly see what it's costing us." For example, Canada cannot come up with a coherent, national policy on foreign students. It's beyond us, he said.

The CAUT official said while the federal role in postsecondary education in other federations in the world has increased over the years and the European Economic Community is creating a whole series of postsecondary programs that transcend national boundaries, Canada seems to be heading in the opposite direction.

Dr Savage, an adjunct professor of history at Carleton University, said Canadians seem to be moving towards 10 independent university systems, which will be unable to compete with other countries. "How is Ottawa doing it? It's cutting cash transfers to provinces for post-secondary education," he said, adding that last year alone about \$300 million was cut from these transfers.

"The effects of that are felt first in the poorer provinces," he said, citing Nova Scotia where budgets are frozen. "Similar things are happening in Newfoundland, New Brunswick and Prince Edward Island. It's only a matter of time before this begins to affect the rest of the country."

## Board approves quota increase for collaborative BScN program

The Board of Governors gave its approval, at its last meeting of 1991, to a proposal from the Faculty of Nursing to increase the third-year quota in the Faculty's collaborative baccalaureate program from 200 to 235. The increase would be effective September 1993.

The collaborative program was originally approved in December 1989, with a third-year quota of 200. The program got off the ground this year. The increase was approved by the other three partners in the program to accommodate 35 additional students from Grant MacEwan Community College who require the diploma completion program.

The partners in the innovative program have agreed to share the course load without incurring additional costs. "There will be no additional costs involved here," said Bill Milnthorpe, Chair of the Board Educational Affairs Committee, at the 6 December Board meeting.

In other news, the Board also approved a Faculty of Nursing proposal to increase the BScN quota to accommodate registered psychiatric nurses in the Edmonton and Red Deer collaborative nursing model. The third-year quota will be increased by 24 students at the Edmonton site and by eight students at the Red Deer site, effective January 1993.

The quota increase would end in 1998 and would allow registered psychiatric nurses (RPNs) to gain access to the collaborative BScN program, subject to the availability of funding.

The proposal was developed in response to a request by Alberta Advanced Education to increase access to baccalaureate education for RPNs. Meanwhile, Advanced Education has decided to close the Alberta Hospital Edmonton School of Nursing and Grant MacEwan will discontinue the Diploma Nursing Program for RPNs in 1992.

The collaborative baccalaureate nursing program now offered in Edmonton and Red Deer allows graduates of registered psychiatric programs direct access to a baccalaureate degree without first earning a registered nurse diploma.

This proposal for a five-year pilot project would cost money, said Milnthorpe, and would have to be picked up by the government before it could be implemented.

## U of A natural spot for polymer research, chemical engineer says

When the Natural Sciences and Engineering Research Council of Canada late last year announced its 1991-92 strategic grants here in Edmonton, several chemical engineers at the U of A received money for their research on polymers. One of those recipients was Michael Williams, a recent arrival to the department who in the mid-1960s was challenged at the University of California at Berkeley to establish polymer teaching and research.

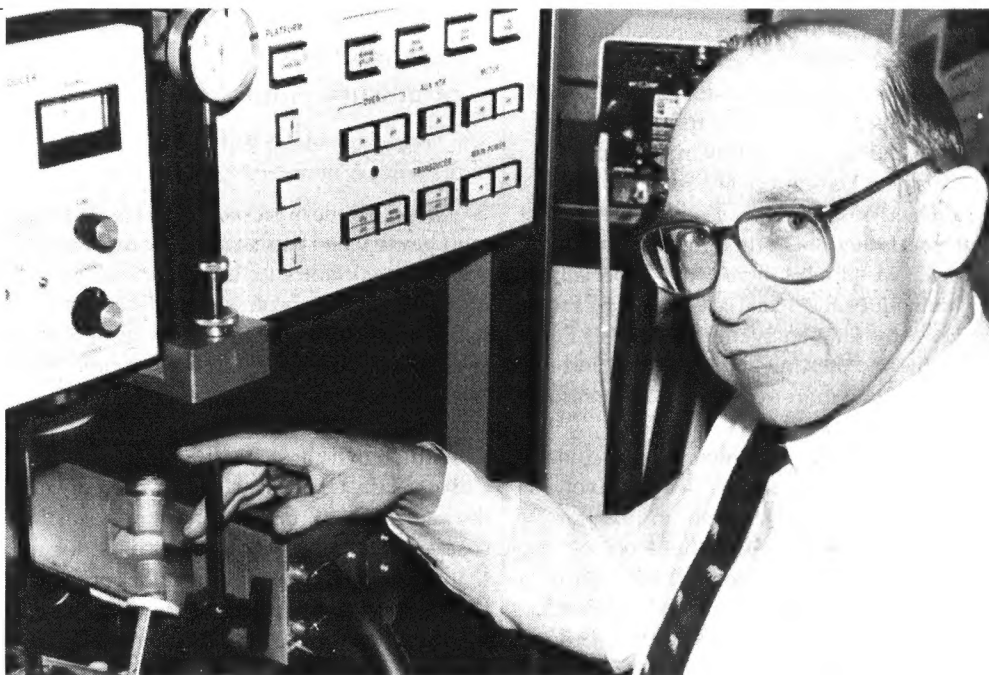
"Polymer research is something this University has to do," says Dr Williams. "If we don't do polymer research in one of the biggest polymer-producing areas in North America—much less the world—then there's something wrong. For one thing, the companies doing the producing have got to import specialists from other parts of Canada."

Polymers are compounds whose molecules are formed from a number of repeated units of one or more compounds of low molecular weight. Most notably, plastics are polymeric substances.

"I think if the University is to be a partner in this enterprise, one of its main functions is to educate people who will then be able to enter the polymer industry at the research level," Dr Williams says, adding that one of the objectives will be to make polymer courses available to undergraduates, so they can learn more about polymer material.

Dr Williams's particular work—supported by NSERC with strategic grant money and other NSERC money which has allowed him to purchase a state-of-the-art mechanical spectrometer which measures viscosity and elasticity of liquids and soft solids—is aimed at fabricating polymer composites. A polymer composite is a combination of other materials with polymers to produce materials with particular characteristics.

According to Dr Williams, these composites are replacing metals at an amazing pace.



Michael Williams says polymer research is a must for the U of A.

**"...we need to direct attention towards new polymers that may have a market in the future that perhaps we can't foresee now."**

"A good example of its commercial value is in the aircraft industry; they're starting to make airplanes almost entirely of composites," he said. "We want airplanes that are lightweight and yet very strong, so strength per unit weight is very important," he explains.

More and more of the automobile is becoming polymeric, he said. "By volume, 40 percent of the automobile is now made of polymeric materials." Furthermore, the telecommunications industry is increasingly using them, and some polymers can now even conduct electricity. Polyethylene is already so widely used that society doesn't have to worry about there being a market for it. "There's still research to be done to improve it," Dr

Williams says. "But besides improving polyethylene and other large commodity polymers, we need to direct attention towards new polymers that may have a market in the future that perhaps we can't foresee now."

Dr Williams co-chaired a first-ever, one-day workshop last summer titled "Polymers for Alberta's Future". It was really an opportunity for the 80 or so researchers in the field, both in the academic and industrial settings, to listen to leaders in the field, to showcase some of their own work and to build bridges between many of those same researchers.

Dr Williams says these researchers will need to direct their attention towards creating new polymers that have special properties because they are blended with other polymers. "Some are in production now and have been around for years, but in the future [these polymers] will give designers greater flexibility." Material designers will be able to blend these polymers together to achieve specific properties, he explains, noting that some polymers will be designed to have certain optical properties.

## UNIVERSITY OF ALBERTA KILLAM MEMORIAL CHAIR IN SCIENCE OR ENGINEERING

A bequest from the late Dorothy J Killam has resulted in the endowment of two Killam Memorial Chairs at the University of Alberta in any area of basic science or engineering. These are senior appointments offered to distinguished individuals to permit them to carry on high level research and graduate teaching.

One of the Killam Memorial Chairs will become available on 1 July 1992. We are seeking outstanding candidates to fill this position. We invite nominations and applications on behalf of, or from, distinguished individuals interested in this Chair. Applications should be received before 15 February 1992. Enquiries, nominations and applications should be directed to: Dr CR James, Vice-President (Research), University of Alberta, 3-12C University Hall, Edmonton, Alberta T6H 2J9.

*The University of Alberta is committed to the principle of equity in employment. The University encourages applications from aboriginal persons, disabled persons, members of visible minorities and women.*





Dean Fu-Shiang Chia reflects on the growth of the Faculty of Graduate Studies and Research.

When Fu-Shiang Chia became the Dean of the Faculty of Graduate Studies and Research in the early 1980s, he was asked by the then president of the University, Myer Horowitz, to create a first-class graduate school. "I remember my reply. I said, 'Mr President, if you give me first-class professors, I'll give you a first-class graduate school.'"

"Doctoral students—especially the bright ones—come to a department for two reasons. Number one, they have good professors. Number two, there's a critical mass," says Dr Chia, who nearly a decade later is able to point to the largest total enrollment ever in the Faculty, 3,992, and the largest number of PhD graduates in a calendar year.

In 1991, the fulltime enollment in the Faculty was 2,939 and parttime enrollment hit the 1,053 mark. Furthermore, an unprecedented 248 PhDs were awarded in 1991. Two-hundred doctorates were awarded in 1990. "The 248 PhDs in 1991 is a real achievement for the students and faculty involved and should be a source of pride for the institution," says President Paul Davenport.

According to Dean Chia, the University's total graduate student enrollment places it in the number seven position behind Toronto, McGill, Montreal, Laval, Quebec and UBC. Since 1984, the U of A graduate student enrollment has remained remarkably stable relative to other universities. "But look at the

# Record number of PhDs graduate last year at University of Alberta

*Dean says society will demand more PhD training*

doctoral students. In 1984, the U of A had 1,041 doctoral students, but in 1991 the University had 1,441 doctoral students. The doctoral student enrollment increase is dramatic," says Dean Chia.

Why has doctoral student enrollment increased? "That's a result of our decided effort. For the last number of years we have emphasized doctoral programs," he said, adding that society continues to demand more PhDs. "We're good at it [producing PhDs]," he says, matter-of-factly. The quality of the University's PhD graduates is second to none in Canada, the Dean believes, backing up his statement by pointing out that two of the four recently established NSERC doctoral prizes were awarded to U of A students. Moreover, national scholarships from four granting agencies held at the U of A have increased from 125 in 1984 to 170 in 1991-92.

Our objective is to increase the doctoral student enrollment," he says, predicting there will be a steady increase in doctoral student enrollment at the U of A and, similarly, at other universities across the country. That will mean steadily increasing competition for the best and the brightest, says Dean Chia.

That's where the University's PhD fellowships, established in 1989, will help it compete. Dean Chia says by 1994, the fund will be \$3.5 million, and able to support approximately 200 doctoral students. "The primary function of that fellowship is to recruit doctoral students," he says. "Every university is recruiting good students and we have to stay in the game."

President Davenport, at a recent colloquium held on-campus, says one of the biggest problems facing PhD programs is funding. "It's vital we support them better, especially in the humanities and social sciences." The President says the University must expand its PhD programs and the University needs to find ways of getting more young people interested in graduate studies.

In terms of overall numbers, the Faculties of Education and Science are heavily involved in producing doctoral students. In 1990, for example, the year preceding the record number of 248 PhD recipients, the Faculty of Education awarded 56 doctorates. The Faculty of Science was close behind, awarding 49 doctorates. The Faculty of Medicine awarded 21

doctorates, the Faculty of Arts 16 and the Faculty of Agriculture and Forestry 14.

The Faculty of Engineering awarded 28 doctorates that year. This year it awarded 20 doctorates. According to Dean Fred Otto, "Graduate student enrollment in the Faculty is at an all-time high. There are 437 students studying for MEng, MSc and PhD degrees, an increase of 38 students over last year," he reported in the last issue of the Faculty's newsletter.

"These high enrollments come at a time of continuing fiscal crisis at the University," Dean Otto explains. "Because of severe cut-backs in staff and operating funds in the past years and strong signals of more budget cuts ahead, we are clearly in a situation of having to do more with less."

Dean Chia says one of his objectives has been to urge Faculties to make more efficient use of their finite resources. "We've been pursuing for the past several years the introduction of more course-based master's programs," says the Dean.

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**"Doctoral students—especially the bright ones—come to a department for two reasons. Number one, they have good professors. Number two, there's a critical mass."**

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More and more professionals are returning to upgrade their skills and simply can't drop out of the workforce to fulfill residency requirements. Some professors and students have abused thesis-based master's programs—sometimes innocently—but students and professors don't know when to stop and that's a disservice to the students, Dean Chia says.

Although he hasn't hard data yet, Dean Chia says the University has to also resolve the very serious problem of attrition. He suspects the U of A's attrition rate is better than that at most universities in the country, and the completion time is shorter than at most universities. But there's still room for improvements.

## FACULTY OF GRADUATE STUDIES AND RESEARCH

### SUMMARY OF GRADUATE DEGREES AWARDED

(1982 - 1991)

Year	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Doctoral (D.Mus.,Ed.,Ph.D.)	131	148	144	155	174	195	196	203	201	248
Thesis Masters	314	377	315	404	427	444	529	427	460	430
Course-Based Masters	198	254	247	228	209	222	219	207	232	282
Postgraduate Diplomas	2	16	16	19	10	12	11	10	7	10
TOTALS	645	795	722	806	820	873	955	847	900	970

December 5, 1991

## FACULTY OF GRADUATE STUDIES AND RESEARCH

### SUMMARY OF REGISTRATION STATISTICS

(1984 - 1991)

FGSR TOTAL	8409			8509			8609			8709			8809			8909			9009			9109		
	F-T	P-T	TOTAL	F-T	P-T	TOTAL	F-T	P-T	TOTAL	F-T	P-T	TOTAL	F-T	P-T	TOTAL	F-T	P-T	TOTAL	F-T	P-T	TOTAL	F-T	P-T	TOTAL
Doctoral (D.Mus.,Ed.,Ph.D.)	899	142	1041	957	152	1109	1020	168	1188	1070	173	1243	1104	173	1277	1184	175	1359	1211	220	1431	1246	195	1441
Thesis Masters	1309	347	1656	1336	390	1726	1293	445	1738	1276	471	1747	1262	401	1663	1253	441	1694	1167	406	1573	1277	365	1642
Course-Based Masters	279	215	494	292	188	480	281	197	478	260	186	446	268	218	486	246	240	485	287	330	617	299	384	683
Others*	178	194	372	151	171	322	172	184	356	183	162	345	161	173	334	166	142	308	127	55	182	112	56	168
Special & Visiting	16	110	126	19	74	93	10	109	119	12	85	97	17	57	74	17	51	68	15	73	88	5	53	58
TOTALS	2681	1008	3689	2755	975	3730	2776	1103	3879	2801	1077	3878	2812	1022	3834	2866	1049	3915	2807	1084	3891	2939	1053	3992

\*Others' includes Students Registered in Programs as Qualifying, Probationary, and Post-Graduate Diploma Students.

The Dean points to examples such as UCLA's English department where good students are encouraged to enter PhD programs directly from bachelor's programs. "We're doing more of that and telling our departments to accept bright students directly into PhD programs," he says, noting that more and more departments routinely do this.

Asked whether he encounters resistance to the idea of dispensing with the master's degree in some cases, Dean Chia says, "I'm winning the war. The resistance is getting weaker. My message to my colleagues is that you're doing a disservice to students. We are not only emphasizing quality, but also service to students," he says, noting that many master's degrees are the equivalent of PhDs.

In all graduate programs in 1991, 41 percent of the students were female and 59 percent were male. More than 1,000 graduate students are foreign. Of those foreign students, 75 percent are male, thus distorting somewhat the overall statistics related to gender.

Dean Chia wants to maintain the level of foreign students enrolled in the Faculty, which is roughly 29 percent. He's worried the foreign student differential fee will be increasingly perceived by these students as prohibitively expensive. The fee threatens the heterogeneity of the University's programs and if the U of A develops a reputation as being more expensive than other Canadian universities, that may result in fewer foreign student applications, he asserts.

Graduate Students' Association President Ken Ross says the fee may indeed have more impact this year than last year. Foreign students will see the differential fee before they make their applications, he explains, and that may mean they'll go elsewhere. "To their credit, most academics understand the problem," says Ross, but the problem really rests with the provincial government's differential fee policy.

Dean Chia says, "Foreign students at our close competitors' [institutions], such as UBC, Calgary, Saskatchewan and Manitoba, pay much less there than at the University of Alberta." Differential fees in Ontario, Quebec and the Maritimes do exist, but universities actively offset these high fees with various waivers and fellowships. It's urgent that the U of A establish similar schemes, he says.

Ross says the University could offer to pay foreign students more than their Canadian counterparts, but the simplest thing to do would be to abolish the fee.

Dean Chia says the politics of the issue can be very complicated, but the philosophy and logic is clear. "I do know that we're in a position today where we cannot compete with other universities in Canada for good foreign students. And that hurts."

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**The President says the University must expand its PhD programs and the University needs to find ways of getting more young people interested in graduate studies.**

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"A university of our calibre cannot limit itself to Alberta or Canada. We not only share responsibility for the future of Canada, but also for the world. I want this University to be internationally recognized."

Canadian Association of University Teachers Executive Director Donald Savage, who was on campus recently, says the government in New Zealand decided to "really sock it to foreign students in terms of fees. What it didn't realize was that the graduate programs in science, mathematics, engineering and certain other areas had historically depended on significant foreign graduate student enrollment. They just simply stopped coming."

Not only did department chairs in that country object to the fee increases for foreign students, but spokespeople in industries that depended on healthy graduate programs also realized that their research potential was going to be undermined, Dr Savage said.

## Faculty of Dentistry arrives at milestone

It was congratulations all around as the Faculty of Dentistry kicked off its 75th anniversary celebrations 10 January.

"There is no doubt that the Faculty has demonstrated a clear record of leadership," William Novasky, Director of Program Coordination, Alberta Advanced Education, stated. He was also complimentary of the Dental Hygiene Program, which is now 30 years old, and said, "I believe, and I think you believe, that the Dental Hygiene Program is the best in Canada, as is the Faculty itself."

A large turnout of students, alumni, instructors, and administrators was reminded that the Faculty started in an impressive fashion and that much is owed the first Director and Dean, HE Bulyea, and his successors. Dr Bulyea, who was appointed by President Tory in 1917 and stayed until 1942, came here from Harvard University and patterned the curriculum after that of Harvard. Charles Duke, Class of 1941, another speaker at the 75th anniversary inauguration, recalled that Bulyea was one of those fortunate souls who could do everything well. "He designed a lot of the instruments and if anything went haywire he'd fix it," Dr Duke said.

The U of A's Faculty of Dentistry was the fifth of its kind in Canada. It shouldered much

responsibility because it was until 1958 the only dental school in western Canada. It provided dental practitioners for all the western provinces, conducted research into the prevention of dental diseases and promoted dental health in the community and in the schools.

Since 1918 when the first three applicants were admitted, the Faculty has graduated 2,238 dentists, 886 hygienists and 40 specialists in orthodontics. There are upwards of 30,000 patient visits annually and three satellite clinics in northern Alberta provide care for the underserved.

Dean Norman Wood said that once the financial strain eases off, the Faculty would plan to offer more programs, including a bachelor's degree in dental hygiene, and improve the student-teacher ratio.

President Paul Davenport praised the Faculty for its work on caries and fluoride which led to the fluoridation of water in Edmonton.

Dentistry's 75th Anniversary Committee under the chairmanship of Geoff Sperber has scheduled a series of events for the year. Included are various short courses, the Hector MacLean Memorial Lecture, a fun run/walk to help raise money for the Fund for Dentistry, and a homecoming and open house.

Photo Services



Dean Norman Wood applauds Dentistry's accomplishments.

## A HALF-DAY LOOK AT GRADUATE STUDENT SUPERVISION

A half-day workshop called Issues in Graduate Student Supervision will be held 5 February in 165 Education South.

The workshop will begin (1 pm) and end with large group sessions with small group discussion between time. Session topics include: Changing Role of the Supervisor; Role of the Supervisor in Determining Time-to-Degree; Stimulating Critical and Creative Thinking; Hints for First-Time Supervisors; and Gender Issues (in recruitment, course and program design, completion patterns).

Rather than being organized by discipline, the workshop features a number of small (12 people) discussion groups, each of which will concentrate on one specific issue. The groups will be led by experienced faculty and administrators.

The deadline for registering is 31 January. (Space is limited.) The workshop is free and includes an informal wine and chesse reception.

The workshop is being offered by the Faculty of Graduate Studies and Research in conjunction with the Office of the Vice-President (Research). Further details can be obtained from departmental offices or from Susan Babcock, Coordinator of Programs, Research Grants Office, 492-2938.



**ALBERTA CENTRE FOR WELL-BEING**

30 January, 7:30 pm

Judy Sefton, "Well-Being Information: Who Do Albertans Turn to And How Often?" E-120 Van Vliet Centre.

**ALBERTA HERITAGE FOUNDATION FOR MEDICAL RESEARCH**

21 January, 4 pm

Judy A Garner, associate professor and vice-chair, Department of Anatomy and Cell Biology, University of Southern California School of Medicine, "Biogenesis and Functional Organization of Presynaptic Terminal Cytoplasmic Proteins." Presented by Anatomy and Cell Biology. 5-10 Medical Sciences Building.

23 January, 3:30 pm

Nathan Ellis, Laboratory of Human Genetics, The New York Blood Center, "The Evolution and Function of the Human Sex Chromosomes: Recent Molecular Studies." Presented by Genetics. M-141 Biological Sciences Centre.

**APPLIED MATHEMATICS INSTITUTE**

21 January, 3:30 pm

Yuri Sybil, "The Method of Integral Equations for Boundary Value Problems in Nonregular Regions." 657 CAB.

28 January, 3:30 pm

Francis Zwiers, Canadian Climate Centre, Toronto, "Climate Modelling and the Analysis of Experiments Conducted with Climate Models." 657 CAB.

**ART AND DESIGN**

23 January, 5 pm

Robert Bringhurst, visiting poet and author, "The Black Canoe: Bill Reid and the Spirit of the Haida Gwaii." Cosponsor: School of Native Studies. B2 Tory Lecture Theatre.

28 January, 5 pm

Edward Aoki, "A Possible Theoretical Position: Painting as an Ethical Text." 2-20 Fine Arts Building.

**BOTANY**

30 January, 4 pm

William (Ned) Friedman, Department of Botany, University of Georgia, "The Origin of Flowering Plants: An Examination of Darwin's 'Abominable Mystery'." M-149 Biological Sciences Centre.

**CENTRE FOR RESEARCH IN****CHILD DEVELOPMENT AND PSYCHOLOGY**

30 January, 7:30 pm

John G Borkowski, Andrew J McKenna Professor of Psychology, University of Notre Dame, "Moving Metacognition into the Classroom: The Role of 'Working Models' in Strategy-Based Teaching." Room 412, Edmonton Catholic Schools Administration Centre, 9807 106 Street.

31 January, 1 pm

John G Borkowski, "Motivational Underpinnings of Sustained Self-Regulated Learning." CW-410 Biological Sciences Centre.

**CHEMICAL ENGINEERING**

23 January, 3:30 pm

K-Y Kwok, "Adaptive Control of Arterial Blood Pressure." 342 Chemical-Mineral Engineering Building.

30 January, 3:30 pm

P Nawrocki, "Transport Phenomena in Rivulet Flow." 342 Chemical-Mineral Engineering Building.

**CHEMISTRY**

20 January, 11 am

Harry Emmett Gunning Lectures. GR Fleming, Chemistry Department, University of Chicago, "Femtosecond Spectroscopy: Phase, Interference and Solvent Dynamics." V-107 V-Wing.

21 January, 11 am

Professor Fleming, "Primary Processes in Photosynthesis—Energy and Electron Transfer." V-107 V-Wing.

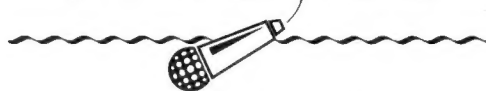
22 January, 11 am

Professor Fleming, "Solvation Dynamics." V-107 V-Wing.

27 January, 11 am

Frederick G West, Department of Chemistry, University of Utah, "New Photochemical Approaches to Complex Molecule Synthesis." V1-07 Physics Building.

# TALKS

**CLOTHING AND TEXTILES**

23 January, 1 pm

Joan Fulton, "Macro Economics, Social Organization, and Economic Development Theories Applied to the Canadian Craft Industry." 131 Home Economics Building.

**COMPARATIVE LITERATURE**

17 January, 3:30 pm

Erwin J Warkentin, "The Works of Wolfgang Borchert as a Product of Nazi Germany." Senate Chamber, Arts Building.

**COMPUTING SCIENCE**

20 January, 3:30 pm

Ze-Nian Li, Simon Fraser University, "Real-time Vision in a Hybrid Pyramid." 619 General Services Building.

**EAST AND CENTRAL ASIAN COLLOQUIUM**

23 January, 4 pm

Eva Dargyay, "Reading the Sacred Biographies of Tibet in a Post-Modern Context." Senate Chamber, Arts Building.

**EDUCATION**

23 January, 7 pm

Ronald Cervero, professor of adult education, University of Georgia, "Continuing Professional Education." 2-115 Education North.

**EDUCATIONAL FOUNDATIONS**

21 January, 3 pm

U Utah Phillips, American folksinger and folklorist, "The Bard, The Mind, and The Muse: The Organic Poet and the Oral Tradition." Cosponsors: Anthropology, English, Graduate Students' Association. 326 Arts Building.

**ENGLISH**

22 January, 4 pm

Sheila Watson Reading Series—Canadian poet Robert Bringhurst reads from his work. Sponsor: Canada Council. L-3 Humanities Centre.

29 January, 4 pm

Research Seminars in Early Women. Linda Harrison, "Undue Influence: The Circumscription of the Life and Writings of Mrs Frances Sheridan." 6-40 Humanities Centre.

Rights of Woman/Wrongs of Woman 1792-1992

30 January, 1 pm

Isobel Grundy, "Female Worthles, Scolds, Quakers, and Prophets: What Was Feminism Before Wollstonecraft?" L-3 Humanities Centre.

30 January, 2 pm

Gary Kelly, "Religion, Sex, and Politics in Wollstonecraft's Revolutionary Feminism." L-3 Humanities Centre.

30 January, 3 pm

Patricia Demers, "Educating Women to Save the Nation and Serve the State: Wollstonecraft and a Bluestocking Sister." L-3 Humanities Centre.

30 January, 4 pm

Reading of original work by Kristjana Gunnars and Aritha Van Herk. L-3 Humanities Centre.

31 January, 1 pm

Anne McWhir, Department of English, University of Calgary, "Mary Wollstonecraft: Sex, Sensibility, and Revolution." L-3 Humanities Centre.

31 January, 2 pm

Susan Hamilton, "Wollstonecraft and Victorian Feminism." L-3 Humanities Centre.

31 January, 3 pm

Janice Dickin-McGinnis, Department of General Studies, University of Calgary, "Feminism and Prostitution: If Mary Wollstonecraft Were on the Supreme Court of Canada." L-3 Humanities Centre.

31 January, 4 pm

Ruth Smillie, artistic director, Catalyst Theatre, will read from Wollstonecraft's feminist novel *The Wrongs of Woman*. L-3 Humanities Centre.

**GEOGRAPHY**

17 January, 3 pm

Brian O'Donnell, director-general, Atmospheric Environment Service, "Modernising Canada's Meteorological Service: From Eyeballs to Electronics." 3-36 Tory Building.

24 January, 3 pm

Doug Porteous, University of Victoria, "The Geography of Being." 3-36 Tory Building.

**HISTORY**

23 January, 3:30 pm

Paul J Vanderwood, Department of History, San Diego State University, "Studying Millenarianism: Methodology and Approaches." 2-58 Tory Building.

24 January, 3 pm

Professor Vanderwood, "Millenarianism, Popular Religion and Rebellion in Mexico." Both lectures cosponsored by Anthropology. 2-58 Tory Building.

29 January, 4 pm

Charlotte Ku, American Society of International Law, "New Risks of the Post-Cold War Period and their Implications for the UN, NATO and Regional Arrangements." 2-58 Tory Building.

**HUMAN ECOLOGY: ISSUES IN THE NORTH**

21 January, 2:30 pm

Randy Lawrence and Lorraine Sinclair, Mother Earth Health Society, "Environmental Issues Affecting Northerners." L-2 Humanities Centre.

28 January, 2:30 pm

Stewart Elgie, "Greener Side of the Fence: Comparison of Mining Regulations in the Yukon and Alaska." L-2 Humanities Centre.

**INTERNATIONAL CENTRE**

20 January, noon

"Trees of Plenty", video, 20 minutes; and "Bamboo—The Miracle Grass", video, 21 minutes. 172 HUB International.

27 January, noon

"In the Kampongs of Surabaya", video, 26 minutes; and "Producing Miracles Everyday", video 23 minutes. 172 HUB International.

27 January, 4 pm

Mildred Wilson de Levy, Mesquito indigenous woman from Puerto Cabezas on the Atlantic Coast of Nicaragua, "Visit With a Nicaraguan Elder." Cosponsor: Students' International Health Association. 172 HUB International.

**LAW**

18 January, 9:30 am

Saturday Morning at the Law School—"Family Law." Information: 492-3115. Law Centre.

21 January, noon

Rick Gossen, managing director, Asterra International Property and Capital Ltd, Hong Kong, "How to Find Legal-Related Employment in Hong Kong." 113 Law Centre.

27 January, 7:30 pm

Rick Gossen, "Promoter Beware: Legal and Business Aspects of Offering Canadian Property and Immigration-Linked Investments in Hong Kong." 231/237 Law Centre.

28 January, noon

Rick Gossen, "Pacific Rim Property: Marketing Yourself and Your Company." 113 Law Centre.

**LIMNOLOGY AND FISHERIES DISCUSSION GROUP**

23 January, 12:30 pm

Dennis Gignac, "Determining Effects of Climate on Ecosystems in Western Canada." M-149 Biological Sciences Centre.

30 January, 12:30 pm

Jeff Curtis, "Factors Regulating the Concentration of Dissolved Organic Carbon in East Central Alberta Lakes." M-149 Biological Sciences Centre.

**NURSING GRADUATE STUDENTS' ASSOCIATION**

27 January, noon

Lillian Douglass, AARN President-Elect, "Nursing in the 90's." 2-115 Clinical Sciences Building.

**OBSTETRICS AND GYNAECOLOGY**

17 January, 4 pm

Simon Riley, postdoctoral fellow, The Lawson Research Institute, St Joseph's Health Centre, University of Western Ontario, "Placental Paracrine Interactions and the Regulation of Parturition." 652 Heritage Medical Research Centre.

**PLANT SCIENCE**

21 January, 12:30 pm

Chao Jiang, "Cell Cycle." 1-06 Agriculture-Forestry Centre.

23 January, 12:30 pm

Zhongming Ge, "Interferon." 1-06 Agriculture-Forestry Centre.

28 January, 12:30 pm

Sungmun Kim, "Influence of Herbicidal Structure in Translocation." 1-06 Agriculture-Forestry Centre.

30 January, 12:30 pm

Michell Cotton, "Immunoassay for Detection of Herbicides in Soil." 1-06 Agriculture-Forestry Centre.

**SAFETY ON CAMPUS COMMITTEE AND CHAPLAINS' ASSOCIATION**

30 January, 4:30 pm

"Understanding Suicide Prevention Issues"—a forum on prevention and intervention and help available. Tory Lecture Basement I.

**SCHOOL OF LIBRARY AND INFORMATION STUDIES**

23 January, 7:30 pm

Anna Altmann, "Welding Brass Tits on the Armour: An Examination of the Quest Metaphor in Robin McKinley's *The Hero and the Crown*." 3-01 Rutherford South.

**SLAVIC AND EAST EUROPEAN STUDIES**

20 January, 3 pm

Zoran Starcevic, "The Language Politics in Former Yugoslavia." 141 Arts Building.

**SOCIOLOGY**

23 January, 12:30 pm

Claude Denis, "Quebec as Distinct Society: A Dominant Discourse Reconsidered." TBW-2 Tory Breezeway.

28 January, 12:30 pm

Gordon Laxer, "Distinct Status for Quebec: A Benefit for English-Speaking Canada?" TBW-2 Tory Breezeway.

30 January, 12:30 pm

Larry Chartrand, "Aboriginal Participation in Constitutional Reform." TBW-2 Tory Breezeway.

**SOIL SCIENCE**

23 January, 12:30 pm

Simon Pollard, "Analytical Challenges in the Characterization of Hydrocarbon-Contaminated Sites." 2-36 Earth Sciences Building.

30 January, 12:30 pm

RL Busch, "The Prevention of Scientific and Scholarly Misconduct." 2-36 Earth Sciences Building.

**ZOOLOGY**

17 January, 3:30 pm

Warren Gallin, "Cell Adhesion Molecules: What Do They Do During Development and What Can They Tell Us About Evolution?" M-149 Biological Sciences Centre.

24 January, 3:30 pm

Gary Wobeser, Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan, "The Relationship Among Habitat Change, Management, and Disease in Wild Waterfowl." M-149 Biological Sciences Centre.

This symbol denotes environmentally related seminars/events. If you wish to have an environmentally related event listed in this way, please contact: The Environmental Research and Studies Centre, 492-6659.

# POSITIONS



The University of Alberta is committed to the principle of equity in employment. The University encourages applications from aboriginal persons, disabled persons, members of visible minorities and women.

## ACADEMIC

### Chair, Department of Physical Education and Sport Studies

The Faculty of Physical Education and Recreation invites applications and nominations for the position of Chair of the Department of Physical Education and Sport Studies. The department offers a Bachelor of Physical Education degree and a joint BPE/BED degrees program. The department also houses the Division of Recreation and Leisure Studies which offers the Bachelor of Arts in Recreation Administration undergraduate degree program. Graduate programs offered by the department include MA, MSc, and PhD programs. Also included within the department are a number of research and service centres including the Rick Hansen Centre, the Alberta Centre for Well-Being, the Pat Austin Centre and the U of A Fitness Unit.

Specific responsibilities of the position include: leadership in undergraduate and graduate program development, implementation and evaluation; teaching at the undergraduate and/or graduate level; maintenance of an active research program.

The successful candidate should have an outstanding teaching and research record and possess excellent leadership qualities. Applications (including a curriculum vitae and the names of three referees) and nominations should be submitted by 31 January 1992 to:

Dr Art Quinney, Dean, Faculty of Physical Education and Recreation, W1-34 Van Vliet Centre, University of Alberta, Edmonton, Alberta T6G 2H9.

### Director, Student Counselling Services

**Unit description:** Student Counselling Services has a staff complement of twelve psychologists, including six interns. Its major responsibility is the provision of a full range of counselling services to a student population in excess of 25,000. The unit also serves as a popular area for practicum placements from the master's and PhD programs in Educational Psychology.

**Requirements:** Currently chartered or eligible for chartering as a psychologist in the Province of Alberta. University counselling experience and demonstrated clinical skills dealing with a range of problem areas presented in a university population. Administrative and supervisory experience. An ability to coordinate activities in the Counselling Services Unit and cooperate with other units as part of Student Services.

**Duties:** Administration of Student Counselling Services in cooperation with other heads of services in the larger area of Student Services. Serves on a number of campus committees, supervises staff, including graduate interns and practicum students. Coordinates all Counselling Services', activities including individual counselling in personal/social, career/vocational and academic problem areas; counselling for prospective University students; maintaining study/learning skills programs, test anxiety management activities; and coordinating areas of training and supervision. Responsible for setting budget and staff priorities and responsible for management of support staff. Responsible for evaluation of all staff for

the purposes of determining salaries and promotions.

**Terms of employment:** Salary commensurate with training and experience. Continuing appointment with excellent fringe benefits.

**To apply:** Send letter of application, résumé, and the names of three referees to: Dr Peter Miller, Dean, Office of the Dean of Student Services, 245 Athabasca Hall, University of Alberta, Edmonton, Alberta. T6G 2E8. Applications will be accepted through 28 February 1992. The starting date for the appointment will be 1 July 1992.

## SUPPORT STAFF

To obtain further information on the following positions, please contact Personnel Services and Staff Relations, 2-40 Assiniboia Hall, telephone 492-5201. Due to publication lead time and the fact that positions are filled on an ongoing basis, these vacancies cannot be guaranteed beyond 10 January 1992. For a more up-to-date listing, please consult the weekly Employment Opportunities Bulletin and/or the postings in PSSR. Positions available as of 10 January 1992.

The limited number of vacancies is a result of the current Support Staff hiring freeze.

Applications for regular operating budget funded University positions (both full-time and part-time) are initially restricted to current bargaining unit employees. This is due to the current hiring freeze. Applications may be accepted from external applicants for some positions after internal staffing has been explored.

The salary rates for the following positions reflect adjustments in accordance with the terms for the implementation of the Pay Equity Program.

**PUBLIC RELATIONS/PUBLICATIONS CLERK (Grade 4) (Part-time),** Office of Public Affairs, (\$1,274 - \$1,570) (prorated)

**CLERK TYPIST (Grade 5) (Part-time),** Medical Lab Science, (\$1,325 - \$1,641) (prorated)

**SECRETARY (RESEARCH) (Grade 5),** Medicine/Red Cross, (\$1,855 - \$2,298)

**SECRETARY (Grade 5),** Dental Health Care, (\$1,855 - \$2,298)

**SECRETARY (Grade 5),** Environmental Research and Studies Centre, (\$1,855 - \$2,298)

**ADMINISTRATIVE CLERK (Grade 5),** Educational Foundations, (\$1,855 - \$2,298)

**ADMINISTRATIVE CLERK (Grade 6),** Faculty of Extension (Government Studies), (\$2,029 - \$2,530)

**SENIOR ACCOUNTS CLERK (Grade 6)** (Term to 31 July 1992), Officer of the Comptroller (Treasury and Risk Management), (\$2,029 - \$2,530)

**SENIOR STUDENT RECORDS PROCESSING CLERK (Grade 7),** Office of the Dean of Education, (\$2,210 - \$2,769)

**OPERATIONS TECHNOLOGIST (Grade 6)** (40-hour week), Physical Plant (Building Operations), (\$2,319 - \$2,891)

The following positions retain salary rates in accordance with the previous classification system and pay plan.

**SECRETARY (Trust/Term to 31 August 1992),** Faculty of Medicine, (\$1,744 - \$2,228)

**BIOCHEMISTRY TECHNICIAN I/II (Trust),** Biochemistry (PENCE), (\$1,808 - \$2,639)

**TECHNICIAN II/TECHNOLOGIST I (Trust),** Biochemistry, (\$2,052 - \$2,876)

**TECHNOLOGIST I (Trust),** Biochemistry, (\$2,230 - \$2,876)

**BIOCHEMISTRY TECHNOLOGIST I (Trust),** Pharmacology, (\$2,230 - \$2,876)

**TECHNOLOGIST I/II (Trust/Term to 30 June 1992),** Medicine, (\$2,230 - \$3,140)

**PROGRAMMER ANALYST II (Trust/Term),** Computing Science, (\$2,639 - \$3,429)

## EVENTS

### DANCE

#### MYER HOROWITZ THEATRE

17 and 18 January, 8 pm  
Dance Motif '92. Tickets and information: 492-2677.

### EXHIBITIONS

#### BRUCE PEEL SPECIAL COLLECTIONS

Until 21 February  
"Twilight of the Raj"—an exhibition of books on the British in India with some letters to Lord Curzon. B7 Rutherford South. Hours: Monday and Friday, 8:30 am to 4:30 pm; Tuesday to Thursday, 8:30 am to 6 pm; Saturday, noon to 5 pm; Sunday, closed.

#### CLOTHING AND TEXTILES

Until 30 April  
"What is Textile Conservation?" This exhibit explains the concerns and work of textile conservators using examples of textile treatments from the lab of Conservation Services. Basement, Home Economics Building. Hours: Monday to Friday, 8 am to 5 pm.

#### MCMULLEN GALLERY

Until 27 January  
"Sand, Fire and Light"—an exhibition, curated by E Ross Bradley, of work by contemporary Albertan glass artists John Norton, Helen Kovacs, Mark Gibeau, Lorie

Hedemark and Barbara Pierce. Gallery hours: Monday to Friday, 10 am to 4 pm; Saturday and Sunday, 1 to 4 pm (subject to availability of volunteers). Information: 492-8428, 492-4211. Walter C Mackenzie Health Sciences Centre.

### MUSIC

#### EDMONTON CHAMBER MUSIC SOCIETY

21 January, 8 pm  
Tafelmusik Baroque Orchestra—Jeanne Lamon, Music Director. Information: 433-4532. Myer Horowitz Theatre.

### SPORTS

#### BASKETBALL

24 and 25 January, 6:30 pm Pandas vs Victoria  
24 and 25 January, 8:15 pm Bears vs Victoria

#### HOCKEY

17 and 18 January, 7:30 pm Bears vs Manitoba  
22 January, 7:30 pm Bears vs Calgary

#### TRACK AND FIELD

17 to 19 January  
Inter University Meet. Butterdome.

#### VOLLEYBALL

17 and 18 January, 6:15 pm  
Pandas vs British Columbia  
17 and 18 January, 8 pm  
Bears vs British Columbia

## Jane Austen Society of North America could have a local flavour

Those interested in the life and work of Jane Austen are invited to stop by the (downtown) Edmonton Public Library next Saturday (25 January). Discussion, initiated by Juliet McMaster and Bruce Stovel, both of the Department of English, will centre on the possible formation of an Edmonton chapter of the Jane Austen Society of North America. Currently, there are about 40 chapters (3,000 members) of the JASNA, including 10 in Canada.

"We're trying to get to people beyond the campus. There are an astonishing number of [Jane Austen] fans out there," Professor McMaster says.

The meeting starts at 3:30 pm in the Edmonton Room.

Founding the chapter would help us sponsor the conference [the 1993 JASNA conference at Chateau Lake Louise, 7 to 10 October], Professor Stovel says. He and Professor McMaster have lined up at least three speakers who need little introduction: novelist Margaret Drabble; Elaine Showalter, Chair of the English Department at Princeton University and a leading authority on women's writing today; and University of Alberta Tory Professor Isobel Grundy.

Some 400 delegates are expected to attend the conference, the 15th of its kind.

## AWARD OPPORTUNITIES



### THE MACKENZIE KING TRAVELLING SCHOLARSHIPS

Number and value: four or five scholarships of up to \$10,000.

Eligibility: open, on application, to graduates of any Canadian university who propose to engage either in the United States or the United Kingdom, in postgraduate studies in the field of International or Industrial Relations (including the international or industrial aspects of law, history, politics and economics).

### THE MACKENZIE KING OPEN SCHOLARSHIP

Number and value: one, one-year scholarship of up to \$7,000.

Eligibility: open to graduates of any Canadian university. Offered in competition for full-time postgraduate studies in Canada or elsewhere, and in any field.

Deadline date: 1 February for both scholarships

For more information, contact the Faculty of Graduate Studies and Research, 2-8 University Hall, or call 492 3499.



# ACCOMMODATIONS AVAILABLE

**VICTORIA PROPERTIES** - Experienced, knowledgeable realtor with Edmonton references will answer all queries, and send information. No cost or obligation. Call (604) 595-3200, Lois Dutton, Re/Max, Ports West, Victoria, BC.

**RENT** - Adjacent to golf course. Large executive home, front drive garage, four bedrooms plus loft. Furnished, unfurnished, 1 January, one year. Rent \$1,500/month. Western Relocation, 434-4629.

**SALE** - Riverbend, Ramsay Road, contemporary 2,300' two storey, three bedroom. Landscaped, fenced, vaulted ceilings. This house has everything! Janet Jenner/Jean Mill, Spencer Realty, 435-0808.

**RENT** - Lansdowne, southwest bungalow, fully furnished, fireplace, double garage. January - 31 March. Western Relocation Services, 434-4629.

**SALE** - Belgravia, spacious three bedroom bungalow, great oak woodwork. Quiet location, south backyard, asking \$169,900. Ed Lastiwka, Royal LePage Realty, 446-3800.

**RENT** - Furnished home, four bedrooms plus den, backing onto park in St Albert. August - June 1993, \$1,100 plus utilities, 492-0106, 460-2918.

**SALE** - University area, luxury condo, 11114 83 Avenue. 1,316', two storey, two bedrooms, two bathrooms, fireplace, five appliances, cathedral ceiling, indoor parking, \$129,900. 439-5169.

**RENT** - Banff, deluxe, furnished two bedroom condo, 9-16 February. Sleeps six adults, fully equipped kitchen. Facilities on site: swimming, squash, exercise, weight room, etc. Bargain, \$600 includes taxes! 432-9306.

**RENT** - Furnished room, near the University. Nonsmoker, \$300/month. Call 488-7425.

**SALE** - Belgravia, 7305 Saskatchewan Drive. Large bungalow on river view lot in quiet, park-like setting. Finished basement, double garage, \$295,000. Telephone 432-0358 evenings. Open house, 26 January, 1-4 pm.

**SALE** - Hampton Village condo, \$109,900. Five appliances in two bedroom unit. Secure with underground parking. George Rechico, Spencer Realty, 435-0808, 487-1873.

**SALE** - Claridge House, spacious one bedroom, top floor. Walk to University, northwest exposure. Brick fireplace, two underground stalls, five appliances, \$115,000. Kenneth Colpitts, Re/Max Real Estate. 438-1575 business, 445-7500 pager.

**SALE** - Great space with excellent location. Four bedrooms up, main floor den plus family room. Oak kitchen, curved staircase,

pepla windows, west deck, trees, patio. Liz Crockford, Spencer Realty, 435-0808.

**SALE** - Riverbend, four bedroom, two storey. Triple garage, French doors, jacuzzi, large lot. Special! Call Liz Crockford, Spencer Real Estate, 435-0808, 434-0555.

**RENT** - Allendale, furnished, two bedroom, single garage. Available January, \$900. Call Joe, 484-9251.

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**CASH PAID FOR APPLIANCES**, 432-0272.

**BACK TO EUROPE SALE** - Furniture, appliances, household goods. Evenings and weekends, 7203 127 Avenue, Edmonton. Call 475-9008.

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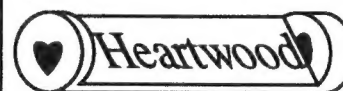
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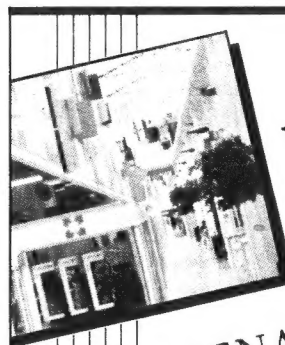
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